University of Zurich[UZH]

Zurich Open Repository and Archive
University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2011

Equilibrium unemployment and the duration of unemployment benefits

Lalive, Rafael ; van Ours, Jan C ; Zweimüller, Josef

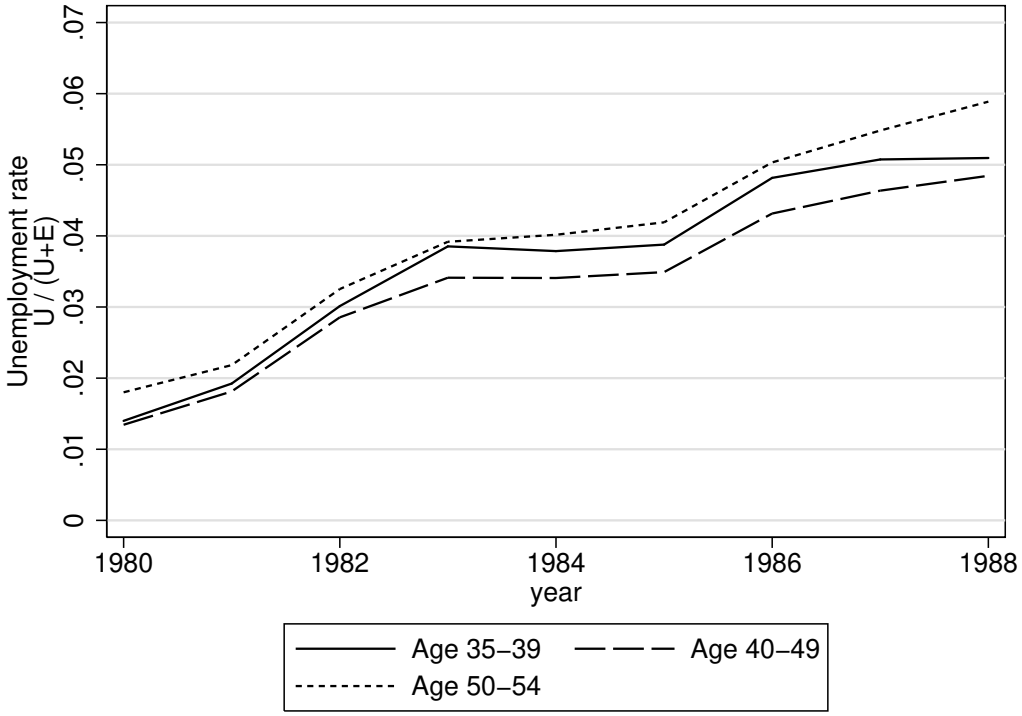
Abstract: This paper uses microdata to evaluate the impact on the steady-state unemployment rate of an increase in maximum benefit duration. We evaluate a policy change in Austria that extended maximum benefit duration and use this policy change to estimate the causal impact of benefit duration on labor market flows. We find that the policy change leads to a significant increase in the steady-state unemployment rate and, surprisingly, most of this increase is due to an increase in the inflow into rather than the outflow from unemployment.

DOI: https://doi.org/10.1007/s00148-010-0318-8

Posted at the Zurich Open Repository and Archive, University of Zurich
ZORA URL: https://doi.org/10.5167/uzh-52477
Journal Article
Supplemental Material

Originally published at:
Lalive, Rafael; van Ours, Jan C; Zweimüller, Josef (2011). Equilibrium unemployment and the duration of unemployment benefits. Journal of Population Economics, 24(4):1385-1409.
DOI: https://doi.org/10.1007/s00148-010-0318-8

Figure 1: Pre-reform trends in unemployment rates, by age groups



Notes: U: # of unemployed workers, E: # of employed workers.
Source: Own calculations based on ASSD.

Table 1:
Descriptive statistics

	Unemployment outflow				Unemployment inflow			
	Before-policy sample		After-policy sample		Before-policy sample		After-policy sample	
	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.
Eligible for 52 weeks	0.000	0.000	0.382	0.486	0.000	0.000	0.308	0.462
Eligible for 39 weeks	0.000	0.000	0.492	0.500	0.000	0.000	0.539	0.498
Eligible for 30 weeks	1.000	0.000	0.126	0.332	1.000	0.000	0.153	0.360
Duration of unemployment (weeks)	41.630	63.845	48.977	76.780	0.000	0.000	0.000	0.000
Age 35–39	0.181	0.385	0.126	0.332	0.173	0.378	0.153	0.360
Age 40–49	0.562	0.496	0.492	0.500	0.580	0.494	0.539	0.498
Age 50+	0.257	0.437	0.382	0.486	0.247	0.431	0.308	0.462
Age	45.383	5.500	46.768	5.526	45.474	5.457	45.941	5.416
After-policy	0.000	0.000	1.000	0.000	0.000	0.000	1.000	0.000
1st quarter	0.351	0.477	0.301	0.459	0.250	0.433	0.250	0.433
2nd quarter	0.220	0.414	0.219	0.414	0.251	0.434	0.251	0.434
3rd quarter	0.212	0.408	0.229	0.420	0.250	0.433	0.250	0.433
4th quarter	0.218	0.413	0.251	0.434	0.248	0.432	0.248	0.432
(log) wage	6.425	0.276	6.440	0.316	6.573	0.280	6.598	0.300
Experience[a] (years)	13.143	1.487	13.102	1.520	14.293	1.241	14.252	1.293
Tenure (years)	5.209	5.514	6.062	6.635	10.267	5.522	11.062	6.954
White collar	0.151	0.358	0.158	0.364	0.596	0.491	0.606	0.489
Manufacturing	0.449	0.497	0.423	0.494	0.415	0.493	0.384	0.486
Women	0.349	0.477	0.436	0.496	0.333	0.471	0.378	0.485

[a] Work experience during last 15 years.

Table 2:
Logit results on unemployment flows

Dependent variable	unemployment outflow		unemployment inflow	
Mean of dep. variable	0.445		0.011	
	(1)	(2)	(3)	(4)
Eligible for 52 weeks	−0.090	−0.041	0.002	0.003
	(4.30)**	(2.43)*	(4.19)**	(5.77)**
Eligible for 39 weeks	−0.024	−0.018	0.001	0.001
	(1.22)	(1.15)	(2.25)*	(3.78)**
Duration of unemployment (weeks)		−0.008		
		(24.30)**		
Tenure (years)				−0.001
				(74.23)**
After-policy	−0.208	−0.141	−0.000	−0.001
	(9.23)**	(6.80)**	(0.64)	(2.57)*
(log) wage	−0.150	−0.054	−0.008	−0.004
	(11.37)**	(5.17)**	(23.60)**	(13.38)**
Experience (years)	−0.013	−0.024	−0.003	−0.001
	(5.13)**	(12.06)**	(59.81)**	(36.37)**
White collar	0.089	0.044	−0.004	−0.002
	(9.63)**	(4.95)**	(16.06)**	(13.16)**
Manufacturing	−0.022	−0.016	0.001	0.001
	(3.03)**	(2.85)**	(3.36)**	(5.74)**
Women	−0.096	−0.084	−0.003	−0.001
	(12.59)**	(13.87)**	(16.61)**	(5.07)**
Calendar time dummies (for each quarter)	yes	yes	yes	yes
Age dummies (for each year)	yes	yes	yes	yes
Observations	29786	29786	1245337	1245337

Note: Marginal effects, absolute value of robust z statistics in parentheses, clustered at the individual level.
* significant at 5%; ** significant at 1%

Table 3:
Splitting the sample by duration of current state, Logit estimates

unemployment outflow	Whole sample (1)	Whole sample (2)	Duration ≤ 15w (3)	Duration > 15w (4)
Eligible for 52 weeks	−0.041 (2.43)*	−0.055 (3.27)**	−0.027 (0.85)	−0.043 (3.01)**
Eligible for 39 weeks	−0.018 (1.15)	−0.016 (1.03)	−0.027 (0.96)	−0.021 (1.54)
Duration of unemployment (weeks)	−0.008 (24.30)**	−0.005 (2.95)**	0.008 (6.31)**	−0.004 (17.28)**
Calendar time dummies (for each quarter)	yes	yes	yes	yes
Age dummies (for each year)	yes	yes	yes	yes
Interaction of duration with age and calendar time dummies	no	yes	no	no
unemployment inflow	Whole sample (1)	Whole sample (2)	Tenure ≤ 10y (3)	Tenure > 10y (4)
Eligible for 52 weeks	0.003 (5.77)**	0.002 (4.66)**	0.003 (3.31)**	0.002 (3.39)**
Eligible for 39 weeks	0.001 (3.78)**	0.001 (3.47)**	0.002 (3.73)**	0.000 (0.26)
Tenure (years)	−0.001 (74.23)**	−0.001 (5.90)**	−0.003 (67.76)**	−0.000 (4.71)**
Calendar time dummies (for each quarter)	yes	yes	yes	yes
Age dummies (for each year)	yes	yes	yes	yes
Interaction of tenure with age and calendar time dummies	no	yes	no	no

Note: Marginal effects, absolute value of robust z statistics in parentheses, clustered at the individual level.
* significant at 5%; ** significant at 1%

Table 4:
Diff-in-diff Logit marginal effects of PBD-effects: various subgroups

	unemployment outflow			unemployment inflow		
	Eligible for 52 weeks	Eligible for 39 weeks	Duration (weeks)	Eligible for 52 weeks	Eligible for 39 weeks	Tenure (years)
Whole sample	−0.041	−0.018	−0.008	0.003	0.001	−0.001
	(2.426)*	(1.150)	(24.299)**	(5.768)**	(3.780)**	(74.230)**
Women	−0.025	0.007	−0.006	0.005	0.001	−0.001
	(0.896)	(0.285)	(10.760)**	(4.014)**	(1.725)	(35.070)**
Men	0.020	0.025	−0.010	0.002	0.001	−0.001
	(0.760)	(1.103)	(17.694)**	(3.880)**	(3.744)**	(57.779)**
Blue collar	−0.006	0.012	−0.010	0.004	0.002	−0.001
	(0.185)	(0.418)	(12.194)**	(4.630)**	(3.394)**	(45.717)**
White collar	0.019	0.011	−0.006	0.003	0.001	−0.001
	(0.838)	(0.537)	(16.854)**	(4.595)**	(1.954)	(42.286)**
Low wage	−0.015	0.019	−0.009	0.005	0.002	−0.001
	(0.604)	(0.847)	(16.364)**	(4.611)**	(2.705)**	(55.275)**
High wage	−0.002	−0.018	−0.008	0.002	0.001	−0.001
	(0.068)	(0.807)	(16.245)**	(3.871)**	(2.403)*	(52.639)**

Note: Marginal effects, absolute value of robust z statistics in parentheses, clustered at the individual level.
* significant at 5%; ** significant at 1%

Table 5:
Effects of PBD increase in inflow, outflow and unemployment population ratio

	Quarterly outflow	Quarterly inflow	Interaction	Implied steady-state unemployment ratio (%)
PBD change 30 to 52 weeks				
Before policy-change	.4012	.0098		2.38
After policy-change	.3680	.0142		3.72
Implied increase in u* (p.p.)	.21	1.04	.09	1.34
(percentage due to ...)	(15.6%)	(77.8%)	(6.6%)	100.0%)
Implied increase in u* per additional PBD week (p.p.)	0.010	0.047	0.004	0.061
PBD change 30 to 39 weeks				
Before policy-change	.4649	.0098		2.07
After policy-change	.4491	.0121		2.62
Implied increase in u* (p.p.)	.07	.46	.02	.55
(percentage due to ...)	(13.1%)	(84.1%)	(2.8%)	(100.0%)
Implied increase in u* per additional PBD week	0.008	0.051	0.002	0.061

Note: Calculated from Table 2.

Table 6:
Decomposing the increase in the unemployment population ratio, various subsamples

Subsample	u	change in u	due to outflow		due to inflow		due to interaction	
			absolute	%	absolute	%	absolute	%
PBD 30 to 52								
full sample	.0238	.0134	.0021	15.6%	.0104	77.8%	.0009	6.6%
females	.0293	.0198	.0019	9.5%	.0169	85.3%	.0010	5.2%
males	.0202	.0062	−.0006	−8.9%	.0069	111.8%	−.0002	−3.0%
blue collar	.0234	.0138	.0002	1.7%	.0135	97.4%	.0001	0.9%
white collar	.0196	.0111	−.0010	−9.2%	.0128	115.1%	−.0006	−5.8%
low wage	.0351	.0170	.0009	5.4%	.0157	92.3%	.0004	2.3%
high wage	.0168	.0076	.0001	0.8%	.0075	98.9%	.0000	0.3%
PBD 30 to 39								
full sample	.0207	.0055	.0007	13.1%	.0046	84.1%	.0002	2.8%
females	.0218	.0034	−.0003	−10.0%	.0038	111.8%	−.0001	−1.7%
males	.0186	.0044	−.0006	−14.2%	.0052	118.1%	−.0002	−3.9%
blue collar	.0210	.0061	−.0004	−6.0%	.0066	107.9%	−.0001	−1.8%
white collar	.0171	.0025	−.0004	−17.8%	.0030	120.9%	−.0001	−3.1%
low wage	.0304	.0050	−.0009	−18.5%	.0061	122.0%	−.0002	−3.6%
high wage	.0148	.0036	.0005	13.6%	.0030	83.6%	.0001	2.7%

Note: Calculated from Table 4.